REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-12 are pending and stand rejected.

Claim 1, 6-8, 11 and 12 have been amended.

Claims 1 -7 and 11 stand rejected under 35 USC 103(a) as being unpatentable over Rothlauf (USP no. 4,325,147) in view of Mano (Computer System Architecture, 1982, Prentice-Hall). Claim 8 stands rejected under 35 USC 103(a) as being unpatentable over Rothlauf (USP no. 4,325,147) in view of Mano (Computer System Architecture, 1982, Prentice-Hall) and further in view of Schwartz (Schwartz, Telecommunications Networks, Protocols, Modeling and Analysis, 1987, Addison-Wesley). Claim 9 stands rejected under 35 USC 103(a) as being unpatentable over Rothlauf (USP no. 4,325,147) in view of Mano (Computer System Architecture, 1982, Prentice-Hall) and further in view of Dodley (USP no. 5,966,229). Claim 10 stands rejected under 35 USC 103(a) as being unpatentable over Rothlauf (USP no. 4,325,147), in view of Mano (Computer System Architecture, 1982, Prentice-Hall) and further in view of Artwick (Artwick, "Microcomputer Interfacing," 1980, Prentice-Hall). Claim 12 stands rejected under 35 USC 103(a) as being unpatentable over Rothlauf (USP no. 4,325,147), in view of Mano (Computer System Architecture, 1982, Prentice-Hall) and further in view of Pride (Pride, "Business," 1996, Houghton Mifflin).

Applicant respectfully disagrees with, and explicitly traverses, the reason for rejecting the claims. However, claims 1, 11 and 12 have been amended to more clearly state the invention. More specifically, claims 1, 11 and 12 have been amended to recite that the priority unit allocates the multiplexer unit for data transmission based on at least one criterion and further is connected to the shadow registers via an asynchronous line. No new matter has been added. Support for the amendment may be found on at least page 3, lines 18-20, which state, "[w]hen changes have been made in the shadow register unit, the priority unit 19 is informed accordingly via the asynchronous request line 30" and page 4, lines 7-20, which state in part. "[t]he priority unit 19 has various possibilities for allocating priorities to the various processors 2 and 10."

Rothlauf discloses an asynchronous multiplex system that allows full duplex communication between a plurality of terminals each provided with a UART. The transmission section includes a scanner which sequentially interrogates the UARTS associated with each of the corresponding data terminals and control logic for causing the data words stored in a UART to be delivered to a transmission shift register. (See Abstract). Rothlauf further discloses that the flag select circuit or scanner 66 comprises an "eight to one multiplexer having a plurality of inputs," (see col. 5, lines 4-5), and that the "Q output of flip-flop 122 on line 1-8 enables the flag select circuit such that lines 62 are sequentially sampled to detect the presence of the flag signal." (see col. 5, line 16-19). "When a flag signal is detected on one of the lines by flag select circuitry and output pulse is delivered to the clock input on busy flip-flop ... This last mentioned signal disables counter 78 such that the count thereof corresponds in its identity to the particular line on which the flag signal has been detected. At this point the flag select circuitry suspends the polling sequence until the transmission of a data message has been completed" (see col. 5, lines 25-36).

Hence, Rothlauf teaches a system wherein data registers provide flags to a scanner unit and the scanner unit, based on it position in a known scanning sequence, determines which data to be transmitted based on the occurrence of a flag in the sequential order of the scan. Rothlauf fails to teach or suggest a priority unit that allocates data transmission based on at least one criterion, as is recited in the claims. Rather Rothlauf recites a scanning method that allocates data transmission based on an arbitrary timing between providing a data flag to the scanning unit and the scanning unit scanning of the data flags.

Mano discloses a conventional asynchronous communication system interface or UART wherein a transmitter register accepts a data byte from a microprocessor through a data bus when the CPU determines the transmission register is empty by checking a status bit. The CPU can transfer another character to the transmitter register after checking the flag in the status register. Mano teaches that this type of transmission is referred to as double buffered because a new character can be loaded as soon as the previous one starts transmission.

However, Mano fails to teach or suggest a priority unit that allocates data transmission based on at least one criterion, as is recited in the claims. Rather Mano merely teaches information regarding UART transmission.

A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

Accordingly, Rothlauf teaches an asynchronous multiplex system that uses provides for a scanning unit that determines which data transmission is next for transmission. Rothlauf provides no motivation for prioritizing the order of data transmission, as prioritizing the data transmission requires significantly more intelligence in the determination of data to be transmitted than the simple scanning discloses. Mano similarly provides no motivation for one skilled in the art to incorporate a priority unit into the teaching of Rothlauf as Mano discloses the operation of a single UART and, hence, prioritization is not disclosed by Mano.

Rothlauf and Mano are totally silent with regard to prioritizing the data transmission. Hence, Rothlauf and Mano fail to appreciate the present invention utilizing a prioritization scheme for determining which data transmission to output. Accordingly, one would not look to Rothlauf and Mano to develop the novel feature of the present invention as neither Rothlauf nor Mano disclose a method of prioritizing the data transmission output.

Even if the teachings of Rothlauf and Mano, were combined as suggested by the Office Action, one would not be motivate to develop a system having all the features recited in the independent claim 1 as neither Rothlauf nor Mano provide any suggestion or motivation to prioritize the data transmission.

Having shown that the combination of Rothlauf and Mano, fails to teach or suggest all the elements claimed, applicant submits that the reason for the rejection has

been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claim.

With regard to claims 11 and 12, these claims recite subject matter similar to that stated in claim 1 and were rejected citing the same primary references used in rejecting claim 1. Thus, applicant's remarks made in response to the rejection of claim 1 are also applicable in response to the rejection of claims 11 and 12.

Applicant submits that for the amendments made to claims 11 and 12, which are similar to those made to claim 1, and in view of the remarks made with regard to the rejection of claim 1, which are reasserted, as if in full, in response to the rejection of claims 11 and 12, the reason for the rejection of these claims has been overcome and the rejection can no longer be sustained.

Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard to the rejection of the remaining claims, applicant submits that none of the cited references discloses or suggests prioritizing the data transmission output and, hence, each of these references are deficient in providing teaching of a material element recited in claim 1, from which the remaining claims depend. Hence, the other claims in this application, which are dependent from the independent claim discussed above are therefore patentable for the same reasons recited with regard to claim 1. Since each dependent claim is also deemed to define an additional aspect of the invention, however, individual consideration of the patentability of each on its own merits is respectfully requested.

Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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